

METHOD OF FABRICATING REUSABLE SURFACE INSULATION  
CONTAINING POLYBENZAZOLE

ABSTRACT OF THE DISCLOSURE

5           A lightweight, flexible, layered insulation composed of glass or ceramic fabric  
covered with a ceramic coating and overlying an insulating felt made from needled  
polybenzazole (PBZ) material which is preferably polybenzoxazole (PBO), and which  
optionally contains a poly(1,3-phenylene isophthalamide) felt material, commercially  
known as Nomex™, either combined with the PBZ felt or layered beneath the PBZ  
10 felt as a separate layer. The insulation is readily applied to a reusable launch vehicle  
via a silicone adhesive.